

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A magnetic recording medium comprising a substrate, an interlayer and a magnetic layer, the interlayer comprising at least a first intermediary layer, a second intermediary layer and a third intermediary layer, wherein the first intermediary layer or the third intermediary layer is non-magnetic and the second intermediary layer has a hexagonal close pack crystal structure,

wherein the magnetic layer comprises (a) a Cr-rich layer comprising Cr and (b) a Cr-dilute layer comprising Cr, wherein the Cr-rich layer comprises a greater atomic percent Cr than the Cr-dilute layer.

2. (Currently amended) ~~A magnetic recording medium comprising a substrate, an interlayer and a magnetic layer, the interlayer comprising at least a first intermediary layer, a second intermediary layer and a third intermediary layer, wherein the first intermediary layer or the third intermediary layer is non-magnetic and the second intermediary layer has a hexagonal close pack crystal structure.~~ The medium of claim 1, wherein the first intermediary layer has a hexagonal close pack crystal structure and comprises Co or a Co alloy with at least one element selected from the group consisting of Cr, Pt, Ta, B, Ti, Zr, Hf, Mo, Ru, Si, Ge, Nb, Fe, Ni, Ag, Au and combinations thereof.

3. (Original) The medium of claim 2, wherein the third intermediary layer has a hexagonal close pack crystal structure and comprises Co or a Co alloy with at least one element selected from the group consisting of Cr, Pt, Ta, B, Ti, Zr, Hf, Mo, Ru, Si, Ge, Nb, Fe, Ni, Ag, Au and combinations thereof.

4. (Original) The medium of claim 3, further comprising a non-oxidized or oxidized NiP or CoW layer on the substrate.

5. (Previously Presented) The medium of claim 2, wherein the magnetic layer comprises CoCr or an alloy of CoCr with at least one element selected from the group consisting of Pt, Ta, B, Mo, Ru, Si, Ge, Nb, Fe, Ni, Cu, Ag, Au and combinations thereof.

6. (Canceled)

7. (Previously Presented) The medium of claim 2, wherein the first intermediary layer has a thickness of less than 1 nm and the second intermediary layer has a thickness of about 0.01 to 3 nm.

8-13. (Canceled)

14. (Previously Presented) A method of manufacturing a magnetic recording medium comprising depositing an interlayer on a substrate and depositing a magnetic layer on the interlayer, the interlayer comprising at least a first intermediary layer, a second intermediary layer and a third intermediary layer, wherein the first intermediary layer or the third intermediary layer is non-magnetic and the second intermediary layer has a hexagonal close pack crystal,

wherein the magnetic layer comprises (a) a Cr-rich layer of CoCr or CoCr with one or more elements selected from the group consisting of Pt, Ta, B, Mo, Ru, Si, Ge, Nb, Fe, Ni, Cu, Ag, Au, where in Cr concentration is greater than or equal to 17 atomic %, and (b) a Cr-dilute layer of CoCr

or CoCr with one or more elements selected from the group consisting of Pt, Ta, B, Mo, Ru, Si, Cu, Ag, Ge, Nb, Fe, Ni, Au, where in Cr concentration is less than 17 atomic %.

15. (Original) The method of claim 14, wherein the first intermediary layer has a hexagonal close pack crystal structure and comprises Co or a Co alloy with at least one element selected from the group consisting of Cr, Pt, Ta, B, Ti, Zr, Hf, Mo, Ru, Si, Ge, Nb, Fe, Ni, Cu, Ag, Au, and combinations thereof, and further wherein the third intermediary layer has a hexagonal close pack crystal structure and comprises Co or a Co alloy with at least one element selected from the group consisting of Cr, Pt, Ta, B, Ti, Zr, Hf, Mo, Ru, Si, Ge, Nb, Fe, Ni, Cu, Ag, Au, and combinations thereof.

16. (Canceled)

17. (Original) The method of claim 14, wherein the first intermediary layer has a thickness of less than 1 nm and the second intermediary layer has a thickness of about 0.01 to 3 nm.

18-20. (Canceled)

21. (Previously Presented) The medium of claim 1, wherein the second intermediary layer having a hexagonal close pack crystal structure comprises a material selected from the group consisting of Ru, Re and alloys thereof.

22. (Currently amended) ~~A magnetic recording medium comprising a substrate, an interlayer and a magnetic layer, the interlayer comprising at least a first intermediary layer, a second intermediary layer and a third intermediary layer, wherein the first intermediary layer or the third intermediary layer is non-magnetic and the second intermediary layer has a hexagonal close pack crystal structure.~~ The medium of claim 1, wherein the second intermediary layer comprises at least one bcc-structured element selected from the group consisting of W, Mo, Ta, Nb, Cr, and V.

23-24. (Canceled)

25. (Previously Presented) The medium of claim 1, wherein the second intermediary layer having a hexagonal close pack crystal structure comprises Ru or a Ru alloy that consist of over 80 at. % of Ru and the rest of elements selected from the group consisting of Ti, V, Cr, Zr, Nb, Mo, Rh, Hf, Ta, W and Ir.

26. (Canceled)

27. (Previously Presented) A magnetic recording medium of claim 1 wherein the magnetic layer comprises (a) a Cr-rich layer of CoCr or CoCr with one or more elements selected from the group consisting of Pt, Ta, B, Mo, Ru, Si, Ge, Nb, Fe, Ni, Cu, Ag, Au, where in Cr concentration is greater than or equal to 17 atomic %, and (b) a Cr-dilute layer of CoCr or CoCr with one or more elements selected from the group consisting of Pt, Ta, B, Mo, Ru, Si, Cu, Ag, Ge, Nb, Fe, Ni, Au, where in Cr concentration is less than 17 atomic %.

28. (Previously Presented) The medium of claim 27, wherein the first intermediary layer has a hexagonal close pack crystal structure and comprises Co or a Co alloy with at least one element selected from the group consisting of Cr, Pt, Ta, B, Ti, Zr, Hf, Mo, Ru, Si, Ge, Nb, Fe, Ni, Ag, Au and combinations thereof.

29. (Previously Presented) The medium of claim 27, wherein the second intermediary layer has a hexagonal close pack crystal structure and comprises a material selected from the group consisting of Ru, Re and alloys thereof.

30. (Previously Presented) The medium of claim 27, wherein the third intermediary layer has a hexagonal close pack crystal structure and comprises Co or a Co alloy with at least one element selected from the group consisting of Cr, Pt, Ta, B, Ti, Zr, Hf, Mo, Ru, Si, Ge, Nb, Fe, Ni, Ag, Au and combinations thereof.

31. (Previously Presented) The medium of claim 1, wherein the first intermediary layer has a hexagonal close pack crystal structure and comprises Co or a Co alloy with at least one element selected from the group consisting of Cr, Pt, Ta, B, Ti, Zr, Hf, Mo, Ru, Si, Ge, Nb, Fe, Ni, Ag, Au and combinations thereof.

32. (Previously Presented) The medium of claim 1, wherein the second intermediary layer having a hexagonal close pack crystal structure comprises a material selected from the group consisting of Ru, Re and alloys thereof.

33. (Previously Presented) The medium of claim 1, wherein the third intermediary layer has a hexagonal close pack crystal structure and comprises Co or a Co alloy with at least one element selected from the group consisting of Cr, Pt, Ta, B, Ti, Zr, Hf, Mo, Ru, Si, Ge, Nb, Fe, Ni, Ag, Au and combinations thereof.

34. (Previously Presented) The medium of claim 21, wherein the first intermediary layer has a hexagonal close pack crystal structure and comprises Co or a Co alloy with at least one element selected from the group consisting of Cr, Pt, Ta, B, Ti, Zr, Hf, Mo, Ru, Si, Ge, Nb, Fe, Ni, Ag, Au and combinations thereof.

35. (Previously Presented) The medium of claim 21, wherein the second intermediary layer having a hexagonal close pack crystal structure comprises a material selected from the group consisting of Ru, Re and alloys thereof.

36. (Previously Presented) The medium of claim 21, wherein the third intermediary layer has a hexagonal close pack crystal structure and comprises Co or a Co alloy with at least one element selected from the group consisting of Cr, Pt, Ta, B, Ti, Zr, Hf, Mo, Ru, Si, Ge, Nb, Fe, Ni, Ag, Au and combinations thereof.

37. (Previously Presented) The medium of claim 29, wherein the second intermediary layer further comprises at least one *bcc*-structured element.

38. (Previously Presented) The medium of claim 32, wherein the second intermediary layer further comprises at least one *bcc*-structured element.

39. (Previously Presented) The medium of claim 35, wherein the second intermediary layer further comprises at least one *bcc*-structured element.

40. (Previously Presented) The medium of claim 37, wherein the at least one *bcc*-structured element selected from the group consisting of W, Mo, Ta, Nb, Cr, and V.